

WAVELENGTHS

American Chiropractic Registry of Radiologic Technologists

ACRRT

FALL 2010

EXECUTIVE DIRECTOR 'S MESSAGE:

This issue continues with more osteoporosis information.

You can now use PayPal to make it easier to make payments.

There is a vacancy on the Board for an RT (ACRRT) to serve your organization.

COMPRESSION FRACTURES ...

In our prior issue, we discussed the etiology of osteoporosis and its possible effects which include compression fractures.

In this issue, we will take a closer look at this common fracture – which causes the bones – vertebrae - to collapse in height.

Did you know?

About 700,000 cases of compression fracture due to osteoporosis occur yearly in the United States.

ANATOMY

The human spine consists of 24 bones called vertebrae. They are built just like a square egg—outer shell (cortex) and an inner yolk portion—the medullary cavity. Compression fractures cause the outer shell to collapse. A simple compression fracture involves the vertebral body only however the spinal cord is at risk with severe fractures because of its proximity to the posterior part of the vertebral body.

CAUSES

An injury, such as a fall on the buttocks or a car accident where the person's head hits the steering wheel (restrained by the seat belt) can cause a vertebra to fracture. Compression fractures occur when the forces are too great for the spine to withstand or the bones of the spine are weakened (osteoporosis).

Fractures from osteoporosis usually occur in the front part (anterior) portion of the vertebra.

The worse the osteoporosis, the less trauma will be required for a compression fracture to occur.

SYMPTOMS

What does the patient feel ? Symptoms may include immediate and sharp back pain, decreased range of motion, and reduced sensation to the lower limbs if severe.

DIAGNOSIS

A doctor of chiropractic will usually perform a complete history and physical examination. Pressure (palpation) over the vertebra or striking the spinous process with a reflex hammer will almost take their breath away. If the doctor feels a compression fracture is present, x-rays will be ordered which can be performed by ACRRT personnel.

Additional imaging such as CT or MRI studies may be required if the compression fracture shows multiple small fragments or if there is possible spinal cord involvement.



Fig. 1 – diagram of compression fracture.



Fig. 2 — x-ray of non-healed L2 compression fracture.

What is new?

We hope you are enjoying the revised ACRRT newsletter.

Please forward comments and suggestions to:
fldacbr@gmail.com.

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COMPRESSION FRACTURES ... – continued

SURGERY

VERTEBROPLASTY

A surgeon uses a needle guided by a special x-ray TV (fluoroscope) to fill the compressed vertebra with bone cement. A reaction in the cement causes it to harden quickly. Approximately 80% of patients feel almost immediate pain relief from this procedure.

KYPHOPLASTY

Two long needles are inserted along side of the VB. 2 holes are drilled into the sides of the VB. The surgeon then slides a hollow tube with a deflated balloon on the end through each drill hole. Inflating the balloons restores the height of the VB. Bone cement is injected into the hollow space formed by the balloon. This fixes the bone in its proper size and position.

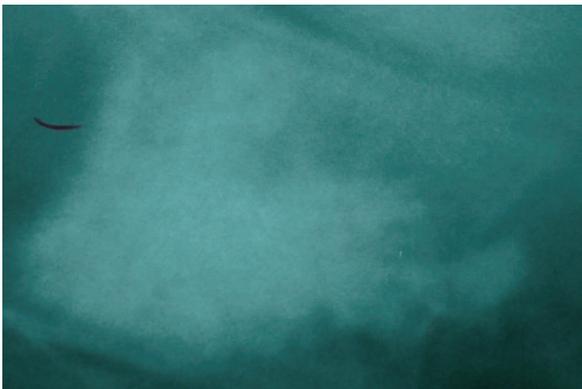


Fig. 3 - x-ray of vertebroplasty procedure

PREVENTION OF OSTEOPOROSIS

I have been performing peripheral DXA bone scans for 6 years on DC's, their patients, and health store patrons in the Midwest. Generally, 47% of the women and 72% of the men have low scores on their bone scans. I am fond of saying, "Osteoporosis is NOT caused from a deficiency of biphosphonates" rather a lack of proper nutrition especially minerals i.e., calcium, magnesium, and other nutrients including vitamin D3.

A daily vitamin mixture that provides calcium (1200 mgs), magnesium (500 mgs), and enough vitamin D3 to bring the blood levels to 60+ ng/mls (as much as 10,000 IU's/day) has been documented to produce higher bone density on follow-up scans.

Calcium alone or only with vitamin D may not be sufficient. Sunlight helps create vitamin D when it strikes a cholesterol molecule. People who live "north" of a line from Atlanta to San Diego will need more sun than others. Twenty minutes daily during the summer may fall far short of what is needed according to recent articles. Imagine how much sun exposure is needed over the winter months!

Exercise is helpful. Young women (30's) are osteopenic (3 children in 5 years) and 70+yo men are having compression fractures that needed Vertebro/Kyphoplasty. I diagnosed a 34 yo (4 children in 7 years) with a compression fracture.

Good quality x-rays are needed as is careful review of the films. A patient on Fosamax had me touch her cheek and I felt the hole created in her jaw (ONJ)! No minerals or vitamin D were suggested by her physician when she was given the prescription.

Osteoporosis is wide-spread and I suggest a base-line scan be obtained for many prior to 40 years of age should bone loss be detected. Proper nutrition has been shown to be effective in preventing and reversing the painful and damaging effects of low bone density that has been documented to lead to early death.

In summary:

- 700, 000 cases of compression fracture/yr in US.
- Osteoporotic fractures usually involve anterior part of vertebra.
- Radiographs determine severity of compression fracture.
- Uncomplicated cases respond well to conservative care. Nutrition should be included.

REFERENCES

1. About.Com: Orthopedics Sept. 28, 2008
2. eorthopod.com: Spinal Compression Fractures
3. wisegeek.com: What is a compression fracture?
4. spineuniverse: Kyphoplasty and Vertebroplasty: Treatment for Spinal Compression fractures
5. FAST FACTS On Osteoporosis—www.nof.org/osteoporosisdiseasefacts.html.

CASE CHALLENGE:

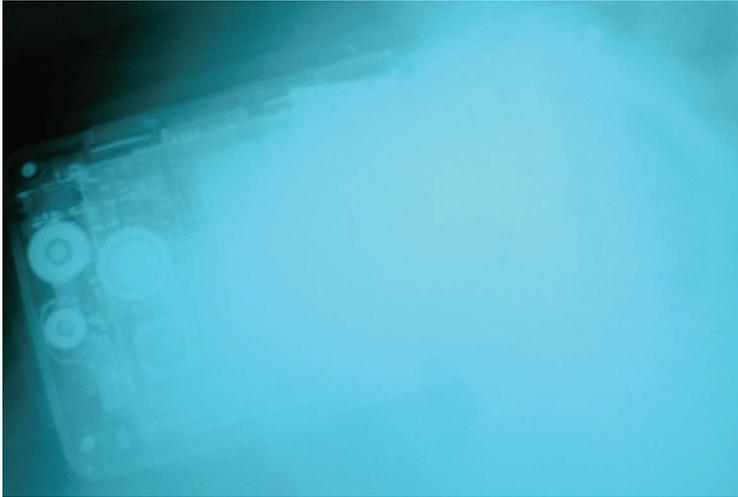


FIG. 4 — Lateral lumbosacral spot view. Problems?
Answers at end of newsletter.

CASE CHALLENGE:



FIG. 5 – How could this x-ray be improved?
Answers at end of newsletter.

RADIOLOGY BLOOPERS

Heard in radiology suites:

“While in the doctor’s office, she was examined, x-rated and sent home.”

“Chest x-ray in “1794” was normal.”

“Low back pain, now with some ridiculous (radicular) symptoms.”

“High blood pressure is under *god* control. (good)”

“Patient was alert and unresponsive.”

“Patient has been exercising regularly with his wife. “



Study Guides Available

Study guides can be purchased for \$65.00 (including shipping and handling) through the ACRRT office.

Please send a check or money order to:

52 Colfax Street
Palatine, IL 60067

Please call if you have any questions:

(847) 705-1178.

** You will need to pay for membership dues and continuing education certificate prior to Dec. 31, 2010.*

**Go to www.acrrt.com for further information.*

**Self instructed Readings (SIRs) are available now for those needing six (6) hours of continuing education. These are articles that you have 30 days to read, answer corresponding questions and return to our office for credit.*

**SIRs are available for \$21.00 per hour or \$126.00 for the required six (6) hours. Please contact our office: (847) 705.1178 or admin@acrrt.com to order.*

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CHANGE OF ADDRESS?
LET US KNOW....



ACRRT
52 West Colfax
Palatine, IL. 60067

TO:

ANSWER TO CASE CHALLENGES

Fig. 4 - Is it ever appropriate to leave a cell phone in a pocket as in this case — **NO!** Make sure cell phones are put away.

Fig. 5 View: Placement of markers is important — in this case soft tissues anterior to the spine are obscured by the right marker.

Markers are best placed on the corners of the cassette where they will most likely not interfere with anatomic structures.

Executive VP—REPORT

You can now use PayPal to simplify payment of your annual dues, SIRS, and other fees. Go to the web site (www.acrrt.com) and click on the link to make your payment for any fees, easier! We now provide SIRS to you via the internet to make it easier and faster for you to obtain the 6 hours of continuing education that is required to keep you current with radiological trends and information. Simply call or email us at admin@acrrt.com and request your 6 hours of SIRS. You read the articles as before, print out the question sheet for the articles, answer the multiple choice questions, and mail it back to us for scoring. When you score 70% or higher, you will get your letter documenting that you completed your 6 hours of CE.

We are looking for any member who is interested to serve as a member on our Board. There is a vacancy for an (RT) ACRRT. We meet once a year for two days, usually in September or October in various locations, you receive a per diem for local costs, and have your transportation costs reimbursed.

Please send your resume to us for consideration.

What topics would you like the next WAVELENGTH to cover? Send your suggestions to our editor.

Dr. Pyzik